

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) A liquid crystal display device including a liquid crystal display panel provided with thin film transistors ~~driven with control signals and a driving voltage applied from a host system, said device~~ comprising:

a timing controller having an input terminal for receiving ~~[[the]]~~ control signals transmitted from ~~[[the]]~~ a host system, wherein the timing controller further includes ~~and having~~ an output terminal;

a frequency detector connected to ~~any one of~~ the input terminal or the output terminal of the timing controller to detect the transmitted control signals;

compensation voltage setting means connected to an output terminal of the frequency detector, wherein the compensation voltage setting means receives for compensating the driving voltage in response to the control signals detected by the frequency detector and generates a compensation voltage control signal based on the detected control signals so as to adjust a charge time of the thin film transistors; and

a ~~digital to digital~~ voltage converter connected to an output terminal of the compensation voltage setting means and to the liquid crystal display panel, the voltage converter ~~[[for]]~~ generating a compensation voltage ~~set by~~ based on the compensation voltage ~~setting means~~ control signal and a driving voltage output by the host system so as to adjust a charge time of the thin film transistors and ~~[[to]]~~ delivering the compensation voltage to the liquid crystal display panel.

2. (Original) The liquid crystal display device as claimed in claim 1, wherein said compensation voltage is any one of a gate high voltage and a common voltage of the thin film transistors.

3. (Original) The liquid crystal display device as claimed in claim 1, wherein said compensation voltage includes a gate high voltage and a common voltage of the thin film transistor.

4. (Currently Amended) A method of controlling a liquid crystal display device including a liquid crystal display panel provided with thin film transistors ~~driven with control signals and a driving voltage applied from a host system~~, ~~[[said]]~~ the method comprising:

detecting the presence of control signals ~~[[from]]~~ at ~~[[any]]~~ one of an input terminal and an output terminal of a timing controller receiving the control signals from ~~[[the]]~~ a host system;

generating a compensation control signal ~~setting a compensation voltage for~~
~~compensating the driving voltage~~ in response to the detected control signals ~~so as to adjust a~~
~~charge time of the thin film transistors; [[and]]~~

adjusting a driving voltage output by the host system based on the compensation control
signal, thereby generating the set a compensation voltage so as to adjust a charge time of the thin
film transistors; and

~~to deliver it~~ delivering the compensation voltage to the liquid crystal display panel.

5. (Original) The method as claimed in claim 4, wherein said compensation voltage is any one of a gate high voltage and a common voltage of the thin film transistor.

6. (Original) The method as claimed in claim 4, wherein said compensation voltage includes a gate high voltage and a common voltage of the thin film transistor.

7. (Currently Amended) A liquid crystal display (LCD) device, comprising:

an LCD panel including,

a plurality of ~~[[pixels]]~~ switching devices arranged in a matrix, ~~each pixel having a corresponding switching device,~~

a plurality of data lines connected to the switching devices for providing pixel data thereto, and

a plurality of scanning lines for applying scanning signals to control the switching devices;

a timing controller receiving external control signals and controlling an output ~~[[timing]]~~ of scanning signals;

a frequency detector detecting a frequency of at least one of the external control signals;

a voltage compensator connected to an output of the frequency detector, wherein the voltage compensator receives ~~receiving~~ the detected frequency and generating ~~generates~~ ~~therefrom~~ a compensation voltage control signal based on the detected frequency; and

a voltage converter connected to an output of the voltage compensator and to the LCD panel, wherein the voltage converter receives ~~receiving~~ the compensation voltage control signal and an external reference voltage ~~for driving the scanning lines of the LCD panel and in response thereto generating,~~ based on the received compensation voltage control signal and reference voltage, generates a compensated driving voltage for driving the scanning lines of the LCD panel.

8. (Original) The LCD device of claim 7, wherein the compensated driving voltage includes a high voltage level of the scanning signals.
9. (Original) The LCD device of claim 7, wherein the compensated driving voltage includes a common voltage level of the scanning lines.
10. (Original) The LCD device of claim 7, wherein the compensated driving voltage includes a high voltage level and a common voltage level of the scanning lines.
11. (Original) The LCD device of claim 7, wherein the frequency detector directly detects the frequency of the external control signals applied to the timing controller.
12. (Original) The LCD device of claim 7, wherein the frequency detector detects a frequency of the control signals by detecting a corresponding frequency of an output signal of the timing controller.
13. (Currently Amended) A method of driving a liquid crystal display device comprising an LCD panel including a plurality of ~~[[pixels]]~~ switching devices arranged in a matrix, ~~each pixel having a corresponding switching device~~, a plurality of data lines connected to the switching devices for providing pixel data thereto, and a plurality of scanning lines for applying scanning signals to control the switching devices, the method comprising:
 - receiving external control signals for controlling a timing of scanning signals;
 - detecting a frequency of at least one of the external control signals;

generating a compensation voltage control signal according to the detected frequency;
and

adjusting an external voltage based on ~~employing~~ the compensation voltage control
signal to generate a compensated driving voltage for driving the scanning lines of the LCD panel.

14. (Original) The method of claim 13, wherein the compensated driving voltage includes a high voltage level of the scanning signals.

15. (Original) The method of claim 13, wherein the compensated driving voltage includes a common voltage level of the scanning lines.

16. (Original) The method of claim 13, wherein the compensated driving voltage includes a high voltage level and a common voltage level of the scanning lines.

17. (Original) The method of claim 13, wherein employing the compensation voltage control signal to generate a compensated driving voltage for driving the scanning lines of the LCD panel comprises one of raising or lowering a high voltage level of the scanning signals.

18. (Original) The method of claim 13, wherein employing the compensation voltage control signal to generate a compensated driving voltage for driving the scanning lines of the LCD panel comprises one of raising or lowering a common voltage level of the scanning signals.

19. (Original) The method of claim 13, wherein employing the compensation voltage control signal to generate a compensated driving voltage for driving the scanning lines of the LCD panel comprises:

one of raising or lowering a high voltage level of the scanning signals; and

one of raising or lowering a common voltage level of the scanning signals.